## Amendments to the Specification

Please replace the paragraph beginning at page 1, paragraph [0004], with the following rewritten paragraph:

**[0004]** Some designs of power amplifiers are known to be more efficient than others. However, not all types of amplifiers are well adapted to telecommunication or radar applications. Such applications typically require amplification systems which meet specifications relating to linearity, bandwidth and/or adaptability.

Please replace the paragraph beginning at page 2, paragraph [0007], with the following rewritten paragraph:

**[0007]** The characteristics of an amplification system depend not only upon the design of the amplifier itself but also depend upon the way in which the amplified signal is modulated. The so-called delta-sigma modulator has been studied extensively and has some desirable properties. Specific embodiments of the delta-sigma modulator are described, in United States patent Nos. 5,446,460 and~~,~~ 5,714,916. Delta-sigma modulators are analysed and discussed in S.R. Norsworthy et al., *Delta Sigma data Converters: Theory Design and Simulation,* IEEE Press, New York, 1997; James Cherry and W. Martin Snelgrove, *Continuous Time Delta Sigma Modulators for High speed A/D Conversion,* Kluwer Academic Publishers, Boston, 2000; and~~,~~ Arun Jamayaraman et al., *Linear high-efficiency Microwave Power amplifiers using Band-pass Delta Sigma Modulators,* IEEE Microwave and Guided Letters Vol. 2 No. 3 March 1998, each of which is hereby incorporated by reference.

Please replace the paragraph beginning at page 4, paragraph [0012], with the following rewritten paragraph:

**[0012]** Figure 1 is a block diagram of an amplification system **10** according to the invention. Amplification system **10** comprises a modulator **12** which receives a signal **13** to be amplified at its input **14**. Modulator **12** produces a digital output signa~~1~~l. Modulator **12** may be a delta sigma modulator. Modulator **12** has an output **16** coupled to an input **18** of a high efficiency amplifier **20**. Amplifier **20** may be a class S amplifier. An output **22** of amplifier **20** is coupled to an antenna system **24**. Preferred embodiments include a linerarizer **30**. Lineraizer **30** is coupled to receive <u>the </u>signal **13** at input **14** and/or the signal **19** at output **22** and to develop a correction signal which is combined with the signal at a point before it is received at the input **18** of amplifier **20**.

Please replace the paragraph beginning at page 5, paragraph [0014], with the following rewritten paragraph:

**[0014]** Modulator **12** may comprise a delta-sigma modulator, which may be a band-pass delta-sigma modulator (BPDSM) of Nth order (typically $4^{th}$ order) with cascaded stages of 1 bit or multi-bit analog to digital converters (ADCs) and digital to analog converters (DACs). Modulator **12** converts <u>the signal 13 to </u>a~~n~~ rectangular wave output signal **17**. Signal **17** drives amplifier **20**. Input RF signal **13** has a frequency in excess of about 300 kHz and may be a microwave frequency signal (i.e. signal **13** may have a frequency of about 800 MHz or more).

Please replace the paragraph beginning at page 7, paragraph [0018], with the following rewritten paragraph:

**[0018]** Figure 2 shows a simple class S amplifier **20A**. Amplifier **20A** has a pair of power transistors **Q1** and **Q2** arranged in a totem-pole configuration. Transistors **Q1** and **Q2** operate as switches controlled by signals **17A** and **17B** at inputs **18A** and **18B**, which together constitute an input **18** of amplifier **20A**. Transistor **Q2** is connected between output **22** and ground. Transistor **Q1** is connected between an output **22** and a direct current power supply **40**. Power supply **40** provides electrical power at a suitable voltage, which may be, for example, in the range of 6V to 60 V.

Please replace the paragraph beginning at page 8, paragraph [0020], with the following rewritten paragraph:

**[0020]** Antenna **24** is connected to output **22** of amplifier **20A** by a dc blocking device, such as a capacitor **42** and a filter **43.** In the illustrated embodiment filter **43** comprises an inductor **44** ~~conducted~~ coupled in series between dc blocking capacitor **42** and antenna **24** and a capacitor **45** connected across antenna **24**.

Please replace the paragraph beginning at page 13, paragraph [0036], with the following rewritten paragraph:

**[0036]** The output signal *y(nT)* can be a pulse density modulated signal. As shown in Figure 6, such an output from delta sigma modulator **12** is a binary digital signal that can be considered as the sum of an input signal and associated quantization noise. Modulator **12** is provided with digital filters to shape the output noise so that its spectrum has a valley corresponding to <u>where</u> the input spectrum falls in. Out-of-band noise can ~~be~~ then <u>be</u> removed using properly designed bandpass filters to produce an approximate replica of the original signal.

Please replace the paragraph beginning at page 13, paragraph [0037], with the following rewritten paragraph:

**[0037]** An extended interface **80**, such as an optical interface, may be provided to couple the output signal from delta sigma modulator **12** to the input of amplifier **20**. Delta sigma modulator **12** and amplifier **20** may be in widely separated locations. For example, delta sigma modulator **12** may be located in a location where a mains power supply is available, while amplifier **20** may be located at a mountain top relay station. The extended interface may, for example, comprise an optical fiber date transmission line.